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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/801,625	03/08/2001	Adolphe Johannes Gerardus Ruigt	NL 000095	8317

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EXAMINER	
KOVALICK, VINCENT E	
ART UNIT	**PAPER NUMBER**
2673	14

DATE MAILED: 12/08/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/801,625	RUIGT, ADOLPHE JOHANNES GERARDUS	
	Examiner	Art Unit	
	Vincent E Kovalick	2673	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 July 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,4-8,10-15 and 17-19* is/are rejected.

7)☒ Claim(s) *3,9 and 16* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Response to Amendment

1. This Office Action is in response to Applicant's Amendment to Final Office Action dated July 16, 2003 in response to PTO Final Office Action dated May 6, 2003.

The amendment to claim 1 has been noted and entered in the record.

With new prior art introduced in the rejection of claims 1, 7 and 21, Applicant's Remarks relative to said claims 1, 7 and 21 are rendered moot.

Based on the introduction of new prior art applied in the rejection of said claims 1, 7, and 21, the USPTO Final Office Action dated May 6, 2003 is herewith withdrawn.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1, 5, 7, 13-14 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamazaki et al. (USP 5,500,538) taken with Hodemaekers (USP 4,298,866).

Relative to claims 1, 7, 13-14 and 19, Yamazaki et al. **teaches** an electro-optical device and method of driving the same (col. 3, lines 15-56); Yamazaki et al. further **teaches** a liquid crystal display (LCD) device comprising a first substrate provided with one or more first electrodes a

second substrate provide with one or more second electrodes, and a twisted nematic liquid crystal material between the two substrates, in which viewed perpendicularly to the substrates, overlapping parts of the electrodes define pixels (col. 16, lines 18-40 and Fig. 20).

Yamazaki et al. **does not teach** said liquid crystal display device being provided with means for adjusting an operating voltage of the liquid crystal display device based on one or more measurements involving a measuring element positioned between the first and second substrates.

Yamazaki et al. teaches a method of driving a liquid crystal electro-optical device.

Hodemaekers **teaches** a liquid crystal display device having capacitance compensation (col. 1, lines 1-67 and col. 2, lines 1-34); Hodemaekers further **teaches** the liquid crystal display device being provided with means for adjusting an operating voltage of the liquid crystal display device based on one or more measurements involving a measuring element positioned between the first and second substrates (col. 1, lines 5-25; col. 3, lines 57-62; col. 9, lines 6-10; col. 11, lines 7-29; Abstract and Figs. 3 and 4).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to provide to the device as taught by Yamazaki et al. the feature as taught by Hodemaekers in order to provide a display apparatus wherein no adjustment is required to compensate for liquid crystal temperature variations (col. 2, lines 19-22, Hodemaekers).

Regarding claim 5, Hodemaekers further **teaches** the LCD device wherein the means for adjusting the operating voltage of the display device comprise means for measuring a capacitance of the measuring element (col. 5, lines 58-65).

4. Claims 2, 4, 8, 10, 15 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamazaki et al taken with Hodemaekers applied to claims 1, 7 and 14 in item 3 hereinabove, and further in view of Black et al. (USP 6,412,977).

Relative to claims 2, 8, 10, 15 and 17, Yamazaki et al. taken with Hodemaekers **does not teach** said LCD characterized in that the means for adjusting the operation voltage of the display device comprises means for measuring a current through the measuring element.

Yamazaki et al. taken with Hodemaekers teaches a method of driving a liquid crystal electro-optical device including a measuring element positioned between a first and second LCD substrates for provide measurements for adjusting an operating voltage.

Black et al. **teaches** a method for measuring temperature with an integrated circuit device (col. 6, lines 11-67 and col. 7, lines 1-63); Black et al. further **teaches** said LCD characterized in that the means for adjusting the operation voltage of the display device comprises means for measuring a current through the measuring element (col. 10, lines 28-39).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to provide to the device as taught by Yamazaki et al. taken with Hodemaekers the feature as taught by Black et al. in order to put in place means for utilizing the sensed temperature date to provide temperature-compensated values on which operating voltages can be based (col. 6, lines 23-27, Black et al.)

Regarding claim 4, it would have been obvious to a person of ordinary skill in the at the time of the invention that the means to measure the current through the measuring element as taught by Black et al. could readily be augmented to include the added feature of detecting a peak current.

5. Claims 6, 11 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamazaki et al. taken Hodemaekers as applied to claims 1, 7 and 14 in item 3 hereinabove, and further in view of Okabe (USP 5,940,184).

Regading claims 6, 11 and 18, Yamazaki et al. taken with Hodemaekers **does not teach** said LCD characterized in that the measuring element comprises a portion of the liquid crystal material.

Yamazaki et al. taken with Hodemaekers teaches a method of driving a liquid crystal electro-optical device including a measuring element positioned between a first and second LCD substrates for provide measurements for adjusting an operating voltage.

Okabe **teaches** a method and apparatus using a photoconductive layer formed on an electrode and a liquid crystal polymer composite (col. 1, lines 7-67; col. 2, lines 1-67 and col. 3, lines 1-57); Okabe further **teaches** the LCD device wherein the measuring element comprises a portion of the liquid crystal material (col. 9, line 67 and col. 10, lines 1-9).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to provide to the device as taught by Yamazaki et al. taken Hodemaekers the feature as taught by Okabe in order to measure base current, resistance of the liquid crystal, threshold value or saturation voltage etc of the liquid crystal measured in advance and store said measurements, and also to obtain the range of the applied voltage and to control the image accordingly (col. 10, lines 9-15, Okabe).

6. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yamazaki et al. taken with Hodemaekers as applied to claim 7 in item 3 hereinabove, and further in view of Oh (USP 6,466,204).

Regarding claim 12, Yamazaki et al. taken with Hodemaekers **does not teach** said LCD further comprising a power supply operable to provide the operating voltage.

Oh **teaches** a color LCD interface circuit (col. 1, lines 30-58); Oh further **teaches** said LCD further comprising a power supply operable to provide the operating voltage (col. 2, lines 16-19).

The feature of providing power supply to provide an operating voltage to a liquid crystal display device is well known in the art and in common practice.

It that this practice is well know and in common practice, it would have been obvious to person or ordinary skill in the art at the time of the invention to provide to the device as taught by Yamazaki et al. taken with Hodemaekers the feature as taught by Oh of providing a power supply to the system for providing an operating voltage to the LCD.

Allowable Subject Matter

7. Claims 3, 9 and 16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Regarding claim 3, the major difference between the teaching of the prior art of record (Yamazaki et al. (USP 5,500,538) ; Hodemaekers (USP 4,298,866 and Black et al. (USP 6,412,977)) and that of the instant invention is that said prior art of record **does not teach**

a LCD device characterized in that the means for adjusting the operating voltage of the display device comprises means for raising the operating voltage and simultaneously measuring the current through the measuring element.

Relative to claims 9 and 16, , the major difference between the teaching of the said prior art of record and that of the instant invention is that said prior art of record **does not teach** said LCD wherein the controller is operable to adjust the operating voltage of the LCD device such that a transmission strength of the pixels is fifty percent of a maximum transmission strength.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U. S. Patent No.	6,411,272	Edwards
U. S. Patent No.	5,850,205	Blouin
U. S. Patent No.	5,726,727	Shibahara et al.

Responses

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vincent E Kovalick whose telephone number is 703 306-3020. The examiner can normally be reached on Monday-Thursday 7:30- 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached on 703 305-4938. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 306-0377.

Vincent E. Kovalick
12/1/03

BIPIN SHALWALA
SUPERVISORY PATENT EXAMINER
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